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(11) **EP 1 102 494 A3**

(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
20.10.2004 Bulletin 2004/43

(51) Int Cl.7: **H04N 7/52, H04N 7/26**

(43) Date of publication A2:
23.05.2001 Bulletin 2001/21

(21) Application number: **00309319.2**

(22) Date of filing: **23.10.2000**

(84) Designated Contracting States:
**AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE**
Designated Extension States:
AL LT LV MK RO SI

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(30) Priority: **16.11.1999 GB 9927111**

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(54) **Data processor and data processing method**

(57) A data processor comprises a data compression encoder (4) which operates to compression encode source data into compression encoded data having a variable compressed data rate. a multiplexer (10) coupled to the data compression encoder (4) and arranged in operation to concatenate the compressed data and ancillary data into a concatenated data stream, and a control processor (8) coupled to the multiplexer (10) and

arranged in operation to control the multiplexer (10) whereby a combined data rate of the concatenated data stream is less than or equal to a pre-determined maximum. The data processor finds application with a compression encoder which operates in accordance with an MPEG-type encoding algorithm. The source data may be representative of video signals or audio signals. and the ancillary data may be descriptive metadata.

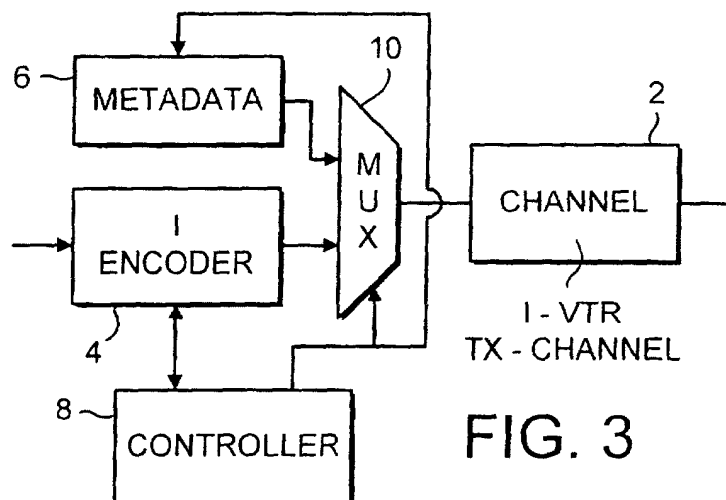


FIG. 3



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EUROPEAN SEARCH REPORT

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| DOCUMENTS CONSIDERED TO BE RELEVANT | | | |
|---|--|--|---|
| Category | Citation of document with indication, where appropriate, of relevant passages | Relevant to claim | CLASSIFICATION OF THE APPLICATION (Int.Cl.7) |
| X | US 5 225 904 A (ASTLE BRIAN ET AL) 6 July 1993 (1993-07-06) | 1-3, 6-16, 19-23, 27-30, 33-35, 38-41 | H04N7/52 H04N7/26 |
| Y | * column 4, line 10 - line 64 * * column 5, line 40 - line 44 * * column 6, line 10 - line 63 * * column 7, line 32 - line 62 * * figure 5 * * column 9, line 22 - column 10, line 32 * * column 35, line 36 - line 52 * * column 36, line 21 - line 23 * | 4,5,17, 18, 24-26, 31,32, 36,37 | |
| Y | EP 0 742 674 A (TOKYO SHIBAURA ELECTRIC CO) 13 November 1996 (1996-11-13) * abstract * * page 1, line 35 - line 44 * | 17,18, 36,37 | TECHNICAL FIELDS SEARCHED (Int.Cl.7) H04N |
| Y | WO 99/30504 A (SONY CORP ; MIHARA KANJI (JP)) 17 June 1999 (1999-06-17) &US6229849 (for translation) 08-05-2001* figure 2 * * abstract * | 4,5,24, 25 | |
| The present search report has been drawn up for all claims | | | |
| Place of search The Hague | | Date of completion of the search 25 August 2004 | Examiner Valencia, E |
| <p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p> | | | |

EPO FORM 1503 03/82 (P04001)



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Application Number
EP 00 30 9319

| DOCUMENTS CONSIDERED TO BE RELEVANT | | | |
|---|--|----------------------------------|--|
| Category | Citation of document with indication, where appropriate, of relevant passages | Relevant to claim | CLASSIFICATION OF THE APPLICATION (Int.Cl.7) |
| D,Y | <p>EUROPEAN BROADCASTING UNION: "EBU/SMPTE Task Force for Harmonized Standards for the Exchange of Programme Material and Bitstreams"</p> <p>EBU TECHNICAL REVIEW, August 1998 (1998-08), XP002293892</p> <p>* paragraph [3.2.6.1.] *</p> <p>* paragraph [3.7.3.] *</p> <p>* paragraph [3.12] *</p> <p>* paragraph [4.3.3.] *</p> <p>* paragraph [4.3.5.] *</p> <p>* paragraph [4.3.6.] *</p> <p>* paragraph [4.5.2.] *</p> <p>* paragraph [4.5.4.5.] *</p> <p>* paragraph [4.6.] *</p> <p>* paragraph [4.7.] *</p> <p>-----</p> | 4,5,26,31,32 | |
| A | <p>EP 0 677 969 A (MATSUSHITA ELECTRIC IND CO LTD) 18 October 1995 (1995-10-18)</p> <p>* figure 3a *</p> <p>* page 4, line 39 - page 6, line 28 *</p> <p>-----</p> | 6,7 | |
| D,A | <p>INTERNATIONAL ORGANIZATION FOR STANDARDIZATION = ORGANISATION INTERNATIONALE DE NORMALISATION: "TEST MODEL 5"</p> <p>1993, MPEG TEST MODEL 5.</p> <p>ISO-IEC/JTC1/SC29/WG11/N0400. CODED REPRESENTATION OF PICTURE AND AUDIO INFORMATION. DOCUMENT AVC-491B, VERSION 2: APRIL 1993, GENEVA, ISO, CH, PAGE(S) 1-119, XP001150695</p> <p>* the whole document *</p> <p>-----</p> | 1-41 | TECHNICAL FIELDS SEARCHED (Int.Cl.7) |
| The present search report has been drawn up for all claims | | | |
| Place of search | | Date of completion of the search | Examiner |
| The Hague | | 25 August 2004 | Valencia, E |
| <p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone</p> <p>Y : particularly relevant if combined with another document of the same category</p> <p>A : technological background</p> <p>O : non-written disclosure</p> <p>P : intermediate document</p> <p>T : theory or principle underlying the invention</p> <p>E : earlier patent document, but published on, or after the filing date</p> <p>D : document cited in the application</p> <p>L : document cited for other reasons</p> <p>& : member of the same patent family, corresponding document</p> | | | |

EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 00 30 9319

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

25-08-2004

| Patent document cited in search report | | Publication date | Patent family member(s) | Publication date |
|---|---|---------------------|----------------------------|---------------------|
| US 5225904 | A | 06-07-1993 | US 4868653 A | 19-09-1989 |
| | | | US 5079630 A | 07-01-1992 |
| | | | AU 637286 B2 | 20-05-1993 |
| | | | AU 1813792 A | 06-08-1992 |
| | | | AU 624089 B2 | 04-06-1992 |
| | | | AU 2543888 A | 18-04-1989 |
| | | | CA 1333090 C | 15-11-1994 |
| | | | EP 0393065 A1 | 24-10-1990 |
| | | | JP 3501550 T | 04-04-1991 |
| | | | WO 8903159 A2 | 06-04-1989 |
| | | | US 5122873 A | 16-06-1992 |
| ----- | | | | |
| EP 0742674 | A | 13-11-1996 | US 5612900 A | 18-03-1997 |
| | | | AU 2812499 A | 01-07-1999 |
| | | | AU 4879899 A | 11-11-1999 |
| | | | AU 708027 B2 | 29-07-1999 |
| | | | AU 5547596 A | 29-11-1996 |
| | | | AU 711310 B2 | 07-10-1999 |
| | | | AU 5547696 A | 29-11-1996 |
| | | | AU 696159 B2 | 03-09-1998 |
| | | | AU 5547796 A | 29-11-1996 |
| | | | AU 707473 B2 | 08-07-1999 |
| | | | AU 5547896 A | 29-11-1996 |
| | | | CA 2192669 A1 | 14-11-1996 |
| | | | CA 2201369 A1 | 14-11-1996 |
| | | | CA 2201516 A1 | 14-11-1996 |
| | | | CA 2201919 A1 | 14-11-1996 |
| | | | DE 69624468 D1 | 28-11-2002 |
| | | | DE 69624468 T2 | 10-07-2003 |
| | | | EP 0742674 A2 | 13-11-1996 |
| | | | EP 0824824 A1 | 25-02-1998 |
| | | | EP 0804854 A1 | 05-11-1997 |
| | | | EP 0781434 A1 | 02-07-1997 |
| | | | EP 0824729 A1 | 25-02-1998 |
| | | | EP 0839374 A1 | 06-05-1998 |
| | | | JP 3361009 B2 | 07-01-2003 |
| | | | JP 9121348 A | 06-05-1997 |
| | | | JP 3253971 B2 | 04-02-2002 |
| | | | JP 11505092 T | 11-05-1999 |
| | | | JP 2001520813 T | 30-10-2001 |
| | | | JP 3512812 B2 | 31-03-2004 |
| | | | JP 2001526844 T | 18-12-2001 |
| | | | JP 3481629 B2 | 22-12-2003 |
| | | | JP 2001520814 T | 30-10-2001 |
| | | | JP 3321457 B2 | 03-09-2002 |
| | | | JP 2000316136 A | 14-11-2000 |

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 00 30 9319

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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25-08-2004

| Patent document cited in search report | | Publication date | | Patent family member(s) | Publication date |
|---|---|---------------------|----|----------------------------|---------------------|
| EP 0742674 | A | | WO | 9636170 A1 | 14-11-1996 |
| | | | WO | 9636173 A1 | 14-11-1996 |
| | | | WO | 9635998 A1 | 14-11-1996 |
| | | | WO | 9635999 A1 | 14-11-1996 |
| | | | US | 5819004 A | 06-10-1998 |
| | | | US | 5623424 A | 22-04-1997 |
| | | | US | 5838874 A | 17-11-1998 |
| | | | US | 5684714 A | 04-11-1997 |
| ----- | | | | | |
| WO 9930504 | A | 17-06-1999 | GB | 2367703 A ,B | 10-04-2002 |
| | | | GB | 2337392 A ,B | 17-11-1999 |
| | | | WO | 9930504 A1 | 17-06-1999 |
| | | | JP | 11262008 A | 24-09-1999 |
| | | | US | 6229849 B1 | 08-05-2001 |
| ----- | | | | | |
| EP 0677969 | A | 18-10-1995 | JP | 3265818 B2 | 18-03-2002 |
| | | | JP | 7288810 A | 31-10-1995 |
| | | | DE | 69529636 D1 | 27-03-2003 |
| | | | DE | 69529636 T2 | 18-12-2003 |
| | | | EP | 0677969 A2 | 18-10-1995 |
| | | | US | 5661523 A | 26-08-1997 |
| ----- | | | | | |